Appl. No. 10/017,375
Reply to Office Action of 02/22/2007

PATENT
Docket: 010331

REMARKS

Claims 1-6 are pending in the present application. Claims 1-6 have been examined and are rejected. In the above amendments, claims 1-6 have been amended, and new claims 8-25 have been added. Therefore, after entry of the above amendments, claims 1-6 and 8-25 will be pending in this application. Applicant believes that the present application is now in condition for allowance, which prompt and favorable action is respectfully requested.

Rejection of Claims 1-6 Under 35 U.S.C. §103(a)

Claims 1-6 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kay *et al* (U.S. Patent No. 5,703,881) in view of Pickering *et al* (U.S. Patent No. 6,738,457).

Kay describes a multi-subscriber unit (MSU) **22** having an antenna **25** for communicating with a base transceiver station (BTS) **28** and further connected to a plurality of individual fixed telephone lines **26**. (See FIG. 1 and column 5, lines 22-26.) Within MSU **22**, a voice/data subscriber interface **36** detects when telephones **26** are off hook and provides off-hook information to an MSU controller **40**. Interface **36** also converts the analog telephone signal to 64 kbps PCM data. (See column 6, lines 2-33.) A speech processor **38** performs three functions: voice activity detection, speech coding/compression to reduce the bit rate of the 64 kbps PCM data, and speech synthesis/decompression to reconstruct the compressed signal back to 64 kbps PCM data. MSU **22** can support communication for one or more telephones **26**, perform speech compression for signals sent from telephones **26** to BTS **28**, and perform speech decompression for signals sent from BTS **28** to telephones **26**. The speech compression may be based on Code Excited Linear Prediction (CELP). (See column 2, lines 4-14.

Pickering describes a voice processing system **10** that records audio segments by first and second speakers and extracts the vocal characteristics of each speaker. "When an audio segment recorded by the first speaker is played back, the system can apply it to the vocal characteristics of the second speaker, thereby making it sound as if the second speaker had recorded the segment." (See the Abstract.) "The invention allows audio segments to be modified to sound as if spoken by a different person from the person who originally recorded the segment. (See column 3, lines 23-25.)

Claim 1 of the present application, as amended, recites:

"A subscriber unit comprising:

a feature extraction module configured to extract a plurality of features of a speech signal, the plurality of features being used for voice recognition;

a voice activity detection module configured to detect voice activity within the speech signal and to provide an indication of detected voice activity; and

a wireless transmitter coupled to the feature extraction module and the voice activity detection module and configured to transmit the indication of detected voice activity and the plurality of features over a wireless network to a voice recognition device in a distributed voice recognition system."

Applicant submits that claim 1 is patentable over Kay in view of Pickering for at least the following reasons.

First, the combination of Kay and Pickering does not disclose "a feature extraction module configured to <u>extract a plurality of features of a speech signal</u>, the plurality of features being <u>used for voice recognition</u>," as recited in claim 1. The rejection indicates that this element of claim 1 is disclosed by Kay in column 7, lines 5-6. However, this section of Kay describes speech processor **38** translating speech between PCM voice format and compressed speech format. The compressed speech format contains generally the same information as the PCM voice format and is intended to <u>reduce the bit rate</u> of data sent over the air. The compressed speech format of Kay is <u>not</u> used for voice recognition and hence does <u>not</u> correspond to the plurality of features recited in claim 1.

Second, the combination of Kay and Pickering does not disclose "a wireless transmitter … configured to <u>transmit</u> the indication of <u>detected voice activity and the plurality of features over a wireless network</u>," as recited in claim 1. Kay describes voice activity detector **56** within speech processor **38** examining PCM data samples for voice activity and reporting the onset of voice activity to MSU controller **40** in the same MSU **22**. (See column 7, lines 28-30.) The detected voice activity is not sent over the air to BTS **28**. The rejection suggests that this element of claim 1 may be disclosed by Pickering in column 6, line 64 to column 7, line 27. However, this section of Pickering merely states "the illustrated system also has excess to both a

server voice recognition system, and also to a local DSP recognition system." (See column 7, lines 5-7.) This section does not disclose transfer of the detected voice activity and the plurality of features from a subscriber unit over a wireless network, as recited in claim 1.

Third, the combination of Kay and Pickering does not disclose "a wireless transmitter ... configured to transmit the indication of detected voice activity and the plurality of features ... to a voice recognition device in a distributed voice recognition system," as recited in claim 1. Kay and Pickering do not disclose a distributed voice recognition system and hence do not disclose a subscriber unit sending the detected voice activity and the plurality of features to a remotely located voice recognition device in such a system.

For at least the above reasons, Applicant submits that claim 1 is patentable over Kay in view of Pickering. Claim 3 is dependent on claim 1 and is patentable for at least the reasons noted for claim 1.

Independent claims 2, 5 and 6 have each been amended to recite the features noted above for claim 1. Claim 4 is dependent on claim 2. These claims are patentable over Kay in view of Pickering for at least the reasons noted above for claim 1.

Accordingly, the §103(a) rejection of claims 1-6 should be withdrawn.

New Claims 8-25

New claims 8-15 recite additional features of the present application. Claims 8-13 are dependent on claim 1, claims 14-19 are dependent on claim 2, and claims 20-25 are dependent on claim 5. Support for claims 8-10 is given on page 9 lines 21-26, support for claim 11 is given on page 9 lines 4-6, support for claim 12 is given on page 9 lines 4-6, and support for claim 13 is given on page 9 lines 17-18.

CONCLUSION

In light of the amendments contained herein, Applicant submits that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

Dated: June 18, 2007   By: /Kenyon S. Jenckes/
                              Kenyon S. Jenckes, Reg. No. 41,873
                              (858) 651-8149

QUALCOMM Incorporated
Attn: Patent Department
5775 Morehouse Drive
San Diego, California 92121-1714
Telephone: (858) 658-5787
Facsimile: (858) 658-2502